

XLV.—On the *Polynesian Members of the Genus Ptilopus*.
By LIONEL W. WIGGLESWORTH.

(Plate XI.)

THE Pigeons of the genus *Ptilopus*, as distributed among the islands of Polynesia, exemplify on a remarkable scale the formation of new species by geographical separation, which is shown in such a striking manner in the Parrots, Blackbirds, and *Rhipiduræ* of the Fiji Islands, and above all in the well-known Land-shells of the family *Achatinellidæ* of the valleys of Oahu. In these cases, however, a narrow projecting mountain-ridge or a few miles of sea are sufficient to prevent the species from interbreeding and losing their identity—as no doubt they would for the most part, could they pass freely from one locality to another; but with the genus *Ptilopus* a stretch of unbroken ocean 200 or 300 miles wide is required to serve the same end, in consequence of the good powers of flight of these birds. The eighteen known Polynesian species of *Ptilopus* are therefore spread out over an enormous area, in addition to that occupied by the other members of the genus in Australia, Papuasias, and the islands of the Oriental subregion. Ranging more widely than even *Aplonis* and *Tatare*, the genus *Ptilopus* is found throughout the Polynesian subregion, so far as it is known, except, perhaps, in the Marshall, Gilbert, and Fanning groups, and, of course, in the Sandwich Islands, which form really a subregion in themselves.

The distribution of these Pigeons in Polynesia has been well sketched out, in the 'Proceedings' of the Zoological Society of London for 1874, by Dr. Finsch, who, with Dr. Hartlaub, must always be regarded as the pioneer in the ornithology of this subregion, and again, in the same 'Proceedings' for 1878, has been treated of by Mr. Elliot. Unhappily, the views expressed in the elaborate monograph of the latter accord so ill—at least with regard to Central Polynesia—with those of Dr. Finsch, Mr. Layard, and other naturalists, that one is puzzled to know which is the most correct authority. As regards localities, however, it is obvious that the collecting naturalist is he who should be

followed, and consequently Mr. Elliot's statements that there are, for instance, four *green Ptilopi* on the island of Tonga-tabu alone, four in the Samoa Islands, and five in the Fiji Islands*, render it probable that some errors have crept in here, since we have the repeated assertions of Mr. Layard† and of the collectors of the Museum Godeffroy‡ that there is but one species in the Tonga Islands, which is peculiar to the group, only one in Samoa, and one in Fiji. Canon Tristram, indeed, can hardly make the Tongan and Fijian birds distinct (*Ibis*, 1878, p. 261), and the orange under tail-coverts of the former, when adult, as against the yellow ones of the latter, seem to constitute almost the only difference.

But, apart from the statements of collectors, most naturalists will find a difficulty in believing that several forms so closely resembling one another as these Central-Polynesian Pigeons could possibly exist together on a small island like Tonga-tabu, or on a group like the Fijis, with every island within sight of others§, and yet keep distinct. One may feel pretty sure that, if a bird of one species should stray to an island inhabited by another, it would find a partner, and its racial characters would become lost in its descendants, for it is almost too much to suppose that the barrier of sterility would be very strong between such closely allied forms. It is only through separation and those other reasons which we do not yet know sufficiently that these species have developed the characters which entitle them to rank as species.

There are other reasons for believing that the three island-groups of Central Polynesia have never possessed more than one green *Ptilopus* each, for few species, probably, have been

* I deduct the pale-coloured *P. perousei*, which is common to all three groups, and the three *Chrysænæ* of the Fiji Islands, from the numbers given by Mr. Elliot.

† Layard, P. Z. S. 1876, pp. 495, 502; *id. op. cit.* 1877, p. 464; *id. Ibis*, 1878, p. 261; *id. P. Z. S.* 1879, p. 385.

‡ Schmeltz, Verh. Ver. Hamburg, 1877 (1879), pp. 177-180.

§ Taviuni, one of the most isolated, is only about 30 miles from Vatu Lele, which is again about 15 miles only from Viti Levu.

subjected to a more confused interchange of names. In 1848 Peale described the species found by him in Samoa as *Ptilinopus fasciatus*. Five years later appeared the 'Voyage au Pôle Sud,' when Jacquinot and Pucheran named the Fijian species *Kurukuru clementinæ*, but gave a very trivial description, referring one to the fuller account given in the 'Voyage de la Vénus' of the *Kurukuru de Clémentine* by Des Murs and Prévost. The latter bird, however, is the Samoan species again, for specimens were obtained from Samoa in one of these voyages, and the words about a "tache ou plastron noirâtre," followed by the "rouge marron" of the abdomen, and the orange under tail-coverts and yellow apical band of the tail, readily identify it with the species from those islands. Bonaparte united the two species as *P. clementinæ*. Subsequently Drs. Hartlaub and Finsch, who, when writing the 'Ornithologie Centralpolynesiens,' had only specimens from the Fiji Islands and Uea before them, failed to see their distinctness from Peale's bird, and united the Fijian and Samoan species under the title *P. fasciatus*. Mr. Layard was the first to point out the characters of the three Central-Polynesian Pigeons (P. Z. S. 1876, pp. 495, 502), but unfortunately gave the Samoan bird the name of *P. apicalis*, Bp. (= *P. fasciatus*, jr.), and Peale's name, *P. fasciatus*, to that belonging to Fiji. Finally Mr. Elliot renamed the Samoan species *P. pictiventris*.

Specimens from all the three groups (for at one time Dr. Gräffe included the Tongan species with the other two) have thus been labelled sometimes with the right, but more often with the wrong, name; and when it is remembered that it is almost, if not quite, impossible to distinguish the immature birds one from another, it will be understood in what manner many erroneous localities have come to be assigned to them. After six months' uninterrupted study of the Polynesian Pigeons, I think I am able to give the localities correctly, so far as they have been recorded; but there are doubtless lying in museums many specimens from other localities which are unknown to me. The present

paper will therefore be found wanting rather on the side of too little than of too much.

In the cases of *P. taitensis*, Less. (= *P. purpuratus*, Lath., cf. Finsch & Hartl.), *P. fasciatus*, auct. mult. (= *P. clementinæ*, Jacq. & Pucher.), *P. apicalis*, Bp. (= *P. fasciatus*, jr., Peale), *P. pictiventris*, Elliot (= *P. fasciatus*), *P. neglectus*, Schleg. (= *P. rarotongensis*, Hartl. & Finsch), and *P. corriei*, Ramsay (= *P. tannensis*, Lath.), some alterations in the synonymy have been made.

I arrange the eighteen Polynesian species of this genus according to their geographical distribution, beginning with the most eastern forms.

1. *PTILOPUS MERCIERI*.

Kurukuru mercieri, Des Murs & Prév. Voy. Vénus, Orn. p. 266 (1855).

Ptilopus mercieri, Bp. C. R. 1855, p. 216; id. Consp. Av. ii. p. 22 (1857); id. Iconogr. Pig. pl. xxii. fig. 2 (1857); Elliot, P. Z. S. 1878, pp. 515, 536; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 179; Tristr. Cat. Coll. B. p. 44 (1889).

Ptilonopus mercieri, Gray, B. Trop. Is. p. 36 (1859); Reichb. Tauben, p. 96 (1862).

Ptilinopus mercieri, Finsch & Hartl. Orn. Centralpolyn. p. 128 (1867); Finsch, P. Z. S. 1877, p. 410; Garrett, Ethnogr. Abtheil. Mus. Godef. p. 238 (1881).

“Pati” of the natives (*Garrett*).

Hab. Marquesas Islands: Nukahiva (*Mus. Paris, Garrett*), Hivaoa or Dominica (*Garrett*).

2. *PTILOPUS DUPETIT-THOUARSI*.

Columba dupetitthouarsii, Neboux, Rev. Zool. 1840, p. 289; id. Voy. Favor. pl. 7.

Columba kurukuru purpuro-leucocephalus, Hombr. & Jacq. Ann. Sc. Nat. xvi. p. 316 (1841).

Ptilinopus emiliæ, Less. Echo du Monde Sav. 1844, p. 873.

Ptilonopus leucocephalus, Gray, List B. Br. Mus., Gallinæ, p. 2 (1844).

Ptilonopus dupetit-thouarsi, Gray, Gen. B. iii. App. p. 23; id. List B. Br. Mus., *Columbæ*, p. 5 (1856); id. B. Trop. Is. p. 36 (1859).

Ptilinopus dupetit-thouarsi, Jacq. & Pucher. Voy. Pôle Sud, iii. p. 114, Atl. pl. 29. fig. 1 (1853); Finsch & Hartl. Orn. Centralpolyn. p. 129 (1867); Finsch, P. Z. S. 1877, p. 410; Garrett, Ethnogr. Abtheil. Mus. Godef. p. 238 (1881).

Thouarsitreron leucocephala, Bp. C. R. xxxix. 1854, p. 276; id. op. cit. xl. 1855, p. 216; id. Iconogr. Fig. pl. 17 (1857).

Columba dupetit-thouarsi, Des Murs & Prév. Voy. Vénus, Zool. p. 241 (1855).

Thouarsitreron dupetitthouarsii, Bp. Consp. Av. ii. p. 16 (1857); Reichb. Tauben, p. 93, Taf. 240. fig. 2587 (1862).

Ptilopus dupetitthouarsii, Schl. Mus. P.-B., *Columbæ*, p. 13 (1873).

Ptilopus dupetit-thouarsi, Elliot, P. Z. S. 1878, pp. 512, 515, 539; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 179; Tristr. Ibis, 1881, p. 251; id. Cat. Coll. B. p. 44 (1889).

"Koukou" (Gray) or "Koku" (Garrett) of the natives.

Hab. Marquesas Islands: Christina Island (*Neboux*), Nukahiva (*Brit. Mus. ap. Gray*), Hivaoa (*Garrett*).

3. PTILOPUS CHRYSOGASTER.

Ptilonopus chrysogaster, Gray, P. Z. S. 1853, p. 48, pl. 54; id. Ann. N. H. xv. 1855, p. 158; id. List B. Br. Mus., *Columbæ*, p. 5 (1856); id. B. Trop. Is. p. 36 (1859); Sclat. P. Z. S. 1864, p. 9.

Kurutreron chrysogaster, Bp. C. R. 1854, p. 876; id. ib. 1855, p. 217; id. Iconogr. Fig. pl. 29. fig. 2 (1857); id. Consp. Av. ii. p. 26 (1857).

Kurutreron chrysogastra, Reichb. Tauben, p. 92, t. 245. figs. 3525, 3526; id. Neuentd. Tauben, p. 176 (1862).

Ptilinopus chrysogaster, Finsch & Hartl. Orn. Centralpolyn. p. 128 (1867); Gräffe, Journ. Mus. Godef. i. p. 48, pl. 4 (1873); Cab. Mus. Godef. v. p. xvi (1874).

Ptilopus coralensis, Schl. (nec Peale) Mus. P.-B., *Columbæ*, p. 14 (1873).

Ptilopus chrysogaster, Elliot, P. Z. S. 1878, pp. 515, 541; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 179; Tristr. Cat. Coll. B. p. 43 (1889).

“Uupa” of the natives (*Wodehouse*).

Hab. Society Islands: Huaheine and Raiatea (*Wodehouse, Garrett*).

Other localities for this species, Tonga-tabu and Marquesas Islands, as given by Gray, and Marianne Islands, by Reichenbach, rest only on the labels of Ed. Verreaux, and are undoubtedly incorrect. The occurrence of this Pigeon on the island of Tahiti would be likely enough, were it not that that island possesses its own peculiar form in the next species, which differs from *P. chrysogaster* in having the breast and belly greenish instead of yellowish, differences which are probably due to long separation on different islands. The collector, Garrett, of the Museum Godeffroy, from which Canon Tristram obtained his supposed Tahiti specimen, mentions that on that island the shooting of birds is forbidden by a law of the French authorities, and that he was unable to obtain examples there. Consequently this locality must be erroneous. The name Tahiti may often have been used in a collective sense for all the Society Islands.

Latham and Forster mention that in Raiatea (Ulietea) and in some other islands the crown of this bird is of a darker purple than in specimens from Tahiti, and Neboux (Rev. Zool. 1840, p. 289) speaks of a “Colombe de Taïti” with a violet cap. This may be a different species.

4. *PTILOPUS PURPURATUS*.

Purple-crowned Pigeon, Lath. Gen. Syn. ii. p. 626 (1783); Bechst. Lath. Uebers. ii. p. 607 (1794) (ind. ex Otaheite).

Columba purpurata, pt., Gm. S. N. i. p. 784 (1788); Lath. Ind. Orn. p. 598 (pt.); Bechst. Lath. Uebers. iv. p. 379 (pt. 1811).

Columba kurukuru, Bonaterre, Enc. Méth. p. 240 (1790) (ex Otaheite).

Columba kurukuru, var. *taitensis*, Less. Voy. Coquille, p. 297 (1826).

Columba oopa, Wagl. Isis, 1829, p. 742.

Columba taitensis, Less. Tr. d'Orn. p. 472 (1831).

Columba porphyra, pt., Forst. Descr. An. p. 167 (1844).

Ptilinopus furcatus, Peale, U. S. Exp. p. 191, pl. 52 (1848); Hartl. Wieg. Arch. 1852, p. 114.

Kurukuru purpuratus, Des Murs & Prév. Voy. Vénus, Zool. p. 222 (1855).

Kurukuru dupetitthouarsi, Des Murs & Prév. ib. pl. vii.

Kurukuru nebouxii, Des Murs & Prév. ib. p. 253, pl. vii. (ap. Elliot).

Kurukuru taitensis, Des Murs. & Prév. ib. p. 251.

Kurutreron oopa, Bp. C. R. 1854, p. 878; id. Consp. Av. ii. p. 26 (1857); Reichb. Tauben, p. 92, t. 245. figs. 3527, 3528 (1862).

Ptilonopus purpuratus, Gray, List B. Br. Mus., *Columbæ*, p. 4 (pt. 1856); id. B. Trop. Is. p. 35 (pt. 1859).

Ptilonopus taitensis, Gray, Gen. B. ii. p. 466.

Ptilinopus tahitensis, Hartl. Wieg. Arch. 1852, p. 134.

Ptilinopus purpuratus, Cass. U. S. Exp. p. 269, pl. xxx. (1858); Finsch & Hartl. Orn. Centralpolyn. p. 122 (1867); Finsch, P. Z. S. 1877, p. 741; id. Voy. Challenger, Birds, p. 57 (1881).

Ptilinopus oopa, Pelz. Novara Reise, p. 104 (1865).

Ptilopus purpuratus, Schl. Mus. P.-B., *Columbæ*, p. 15 (1873).

Ptilopus taitensis, Elliot, P. Z. S. 1878, pp. 541, 515.

"Oopa" of the natives (*Forster*).

Hab. Island of Tahiti.

Under the title "Purple-crowned Pigeon," Latham included the Tongan bird with that from Otaheite, making the remark that the latter possesses a *very pale* purple crown, whereas in specimens from Tonga it is of a remarkably dark and vivid purple. The Tahitian bird was his type, and, unlike Mr. Elliot, I find his description excellent, corresponding in all respects with that given by Dr. Finsch of *P. purpuratus* in the 'Voyage of the Challenger.' It does not, therefore, seem desirable to follow Wagler and bestow the name *purpuratus* on the Tongan species. Forster united the same two

species under the name *porphyracra*, but, in *his* case, a specimen from Tonga-tabu was taken as type. I have therefore preferred to follow Drs. Finsch and Hartlaub in retaining his name for the Tongan, and that of Latham for the Tahitian, species.

5. *PTILOPUS CORALENSIS*.

Ptilinopus coralensis, Peale, U. S. Exp. p. 190, pl. 51 (1848); Hartl. Wieg. Arch. 1852, p. 114; Cass. U. S. Exp. p. 272, pl. 32 (1858); Finsch & Hartl. Orn. Centralpolyn. p. 130 (1867).

Columba purpurata, Temm. & Knip, Fig. i. pl. 35?

Ptilopus viridissima, Bp. Consp. Av. ii. p. 20 (1857).

Kurutreron coralensis, Bp. Consp. Av. ii. p. 26; Reichb. Tauben, p. 93; id. Neuentd. Tauben, p. 177, Novit. t. iii. fig. 33 (1862).

Ptilonopus coralensis, Gray, B. Trop. Is. p. 37 (1859).

Ptilonopus viridissimus, id. ib. p. 38; Reichb. Tauben, p. 95.

Ptilinopus viridissimus, Finsch & Hartl. Orn. Centralpolyn. p. 133 (1867).

Ptilopus coralensis, Schl. Mus. P.-B., *Columbæ*, p. 14, pt. (1873); Elliot, P. Z. S. 1878, pp. 515, 528.

Hab. Paumotu Archipelago: Carlshoff Island and most of the low coral islets (*Peale*).

The type of *P. viridissimus*, which Mr. Elliot identifies with *P. coralensis*, is marked as coming from Timor. This locality, as Mr. Elliot remarks, is evidently erroneous, as are, no doubt, those given by Gray—Society Islands (Ulietea) and Tonga Islands (Tonga-tabu). The species was probably confounded by Gray with *P. purpuratus* and *P. porphyraceus* (jr.). Schlegel identified *P. chrysogaster* and *P. chalcurus*, Gray, with the present species, which accounts for the localities (Marquesas and Cook Islands) given by him.

6. *PTILOPUS HUTTONI*.

Ptilinopus huttoni, Finsch, P. Z. S. 1874, p. 92; Rowley, Orn. Misc. ii. p. 31 (1876).

Ptilopus huttoni, Elliot, P. Z. S. 1876, pp. 515, 538.

Hab. Island of Rapa or Opara, Austral Group (*Hutton*).

7. *PTILOPUS CHALCURUS*.

Ptilonopus chalcurus, Gray, B. Trop. Is. p. 37 (1859).

Ptilinopus chalcurus, Finsch & Hartl. Orn. Centralpolyn. p. 131 (1867); iid. P. Z. S. 1871, p. 31.

Ptilopus coralensis, Schl. Mus. P.-B., *Columbæ*, p. 14 (1873).

Ptilopus chalcurus, Elliot, P. Z. S. 1878, p. 534.

Hab. Hervey or Harvey Island, Cook group (*Gray*).

It is strange that Garrett, who spent six months collecting in the Cook Islands of Rarotonga, Atiu, and Aitutaki, never obtained examples of this species. It lacks the purple abdominal spot of the adult *P. rarotongensis*, H. & F., but may prove to be the young of that bird, with the description of which it corresponds fairly well.

8. *PTILOPUS RAROTONGENSIS*.

Ptilinopus rarotongensis, Hartl. & Finsch, P. Z. S. 1871, p. 30; Gräffe, Journ. Mus. Godef. i. p. 49, pl. 7. fig. 1 (1873); Finsch, P. Z. S. 1874, p. 94; Garrett, Ethnogr. Abtheil. Mus. Godef. p. 224 (1881).

Ptilopus neglectus, Schl. Mus. P.-B., *Columbæ*, p. 7 (1873); Elliot, P. Z. S. 1878, p. 524.

Ptilopus rarotongensis, Elliot, P. Z. S. 1878, p. 534; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 178.

Hab. Rarotonga Island in the Cook group (*Garrett*); Savage Island (*Elliot*)?

A careful comparison of the original descriptions of *P. neglectus* and *P. rarotongensis* leaves little doubt as to these species being identical. The habitat of *P. neglectus* was hitherto unknown. Schlegel gave it as Oceania only. There can now be little doubt but that it came from one of the islands of the Cook group*.

* Since the above was written, Mr. Büttikofer writes to me from Leyden: "A careful comparison of Schlegel's type of *P. neglectus* with the description of *P. rarotongensis* has convinced me that they are identical, and I have altered the name of our specimen to *P. rarotongensis*."

The occurrence of three *Ptilopi* on so small an island as Savage Island, as given by Mr. Elliot, would be highly remarkable, but, when one finds Mr. Ramsay describing a possible fourth (!) and endemic species in his *P. whitmeei*, it becomes pretty evident that some confusion exists here. Niue or Savage Island is an upheaved coral island, lying in a very isolated position about 250 miles west of Tonga, more than 300 miles south of Samoa, and between 600 and 700 miles east of Rarotonga. *P. rarotongensis* may have straggled hither at a recent date, and it is such a well-marked species that it could hardly be confounded with the others, but I think it must be owing to a *lapsus calami* that Mr. Elliot has given two authorities (*Whitmee*, *Brenchley*) for the single specimen examined by him from the island. The yellow-tipped feathers on the abdomen and thighs of Mr. Ramsay's *P. whitmeei* are probably signs of immaturity, since young birds from the Tonga, Samoa, and Fiji Islands are so marked (Finsch & Hartl. Orn. Centralp. p. 117; J. f. O. 1870, pp. 131, 132; ib. 1872, p. 45), while the dark band (not spot) across the lower breast is peculiar to the Samoan *P. fasciatus*, Peale (*P. pictiventris*, Elliot), with which species it corresponds in other respects. I include it therefore, with a mark of doubt, in the synonymy of that species. As the specimen of *P. rarotongensis* examined by Mr. Elliot does not correspond quite exactly with the description by Drs. Finsch and Hartlaub, and as the under tail-coverts of *P. whitmeei* do not show a trace of orange, the latter *may* prove to be the young of a distinct species. The name of Mr. Whitmee is given as the authority for the occurrence of the Tongan *P. porphyraceus*, Forster, on Savage Island. This is probably a mistake. Mr. Ramsay regarded his *P. whitmeei* as little more than a variety of *P. porphyraceus*, and Mr. Whitmee, from whom he obtained the bird, may have done the same.

9. PTILOPUS PORPHYRACEUS.

Purple-crowned Pigeon (ex Tonga-tabu), Lath. Gen. Syn. ii. p. 626 (1783); Bechst. Lath. Uebers. ii. p. 607 (1794).

Columba purpurata, Gm. S. N. i. p. 784, pt. (1788); Lath.

Ind. Orn. p. 598, pt.; Bechst. Lath. Uebers. iv. p. 379, pt. (1811); Shaw, Gen. Zool. xi. p. 66 (1819), pt.

“*Columba porphyracea*, Forster,” Temm. Tr. Linn. Soc. xiii. p. 130 (1822).

Columba forsteri, Desm. Dict. Sc. Nat. xl. p. 340 (1826); Less. Compl. Buff. ii. p. 34 (1837).

Columba purpurata, Wagl. Isis, 1829, p. 742.

Columba porphyracra, Forst. Descr. An. p. 167 (1844).

Ptilonopus porphyracrus, Gray, Gen. B. ii. p. 466; id. List B. Br. Mus., *Columbæ*, p. 3 (1856); id. B. Trop. Is. p. 38 (1859).

Ptilinopus purpuratus, Hartl. Wieg. Arch. 1852, p. 134.

Ptilopus purpuratus, Bp. Iconogr. Fig. pl. xix. fig. b, jr. (1857), *fide* Elliot.

Ptilopus porphyraceus, Bp. Consp. Av. ii. p. 21 (1857); Schl. Mus. P.-B., *Columbæ*, p. 8 (1873).

Ptilonopus porphyraceus, Reichb. Tauben, p. 95 (1862); Layard, P. Z. S. 1876, p. 502.

Ptilinopus porphyraceus, Finsch & Hartl. Orn. Central-poly. p. 119; iid. J. f. O. 1870, pp. 122, 131; Gräffe, t. c. pp. 402, 407; id. Journ. Mus. Godef. i. p. 49, pl. 7. fig. 3 (1873); Finsch, P. Z. S. 1877, pp. 725, 775, 783; id. Voy. Challenger, Birds, p. 38 (1881).

Ptilopus purpuratus, Elliot, P. Z. S. 1878, pp. 515, 525, pt.; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 177; Tristr. Cat. Coll. B. p. 44 (1889), Tonga-tabu.

“Kurukuru” (*Forster*) or “Kulukulu” (*Gräffe*, *Hübner*) of the natives.

Hab. Tonga Islands: Tonga-tabu (*Forster*, &c.), Eua (*Hübner*), Lifuka (*Gräffe*), Habai (*Hübner*), Vavao (*Gräffe*), Niuafoa (*Hübner*), Futuna Island (*Layard*).

I give a key to show the distinguishing points of this and the other allied Central-Polynesian species:—

a. Band across end of tail greenish, grey, or whitish.

a'. Head uniform green.

a'. Above green, with coppery gloss; beneath green, with yellow tips to all the

feathers; wing-feathers edged and
tipped with yellowish or white. *P. porphyraceus*,
P. clementinæ, and *P. fasciatus* (very young).

b'. Crown of head magenta-purple.

c'. Abdomen green; under tail-coverts yellow. *P. bonapartei*
(= ? *P. clementinæ*, jr.).

c''. A purplish-black patch in middle of
abdomen.

c'''. Under tail-coverts bright yellow *P. clementinæ*, ad.

d'''. Under tail-coverts orange *P. porphyraceus*, ad.

b. Band across end of tail yellow.

d'. Abdomen rufous; under tail-coverts orange.

1. Feathers of abdomen variegated with
yellow *P. apicalis*, Bp.*
(= *P. fasciatus*, jr.).

2. A broad line of blackish separating abdo-
men from breast; secondaries with lilac
tips *P. pictiventris*
(= *P. fasciatus*, jr.).

d''. A deep magenta patch in middle of
abdomen *P. fasciatus*, ad.

Although I have no corresponding series of specimens before me, it is not difficult, with the aid of various descriptions, to follow the development of *P. fasciatus* in its different stages of growth. The young bird is at first entirely green, with yellow-tipped feathers below, yellow under tail-coverts, and a grey (sometimes pale yellowish) band at the end of the tail. The magenta feathers of the cap first begin to sprout at the forehead; soon afterwards the yellow-tipped feathers upon the breast are lost, the orange under tail-coverts and yellow cross-band of the tail are assumed, and the chestnut-red of the abdomen begins to make its appearance, when the bird becomes *P. apicalis*, Bp. The remaining yellow-tipped feathers of the abdomen are now lost, and the purplish-black band separating abdomen and breast is produced, and the bird shows the plumage of *P. pictiventris*,

* Mr. Elliot appears to have overlooked the fact that J. Verreaux, in a letter to Drs. Finsch and Hartlaub, declared this bird to be without question the young of *P. fasciatus* (F. & H., Orn. Centralpolyn. p. 290; Finsch, J. f. O. 1870, p. 46), but he was aware that the type in the Paris Museum is not fully adult.

Elliot. With the final acquisition of the deep magenta abdominal patch the full dress of the adult *P. fasciatus* is seen. I may mention that Peale's description is taken from a specimen in the plumage of *P. pictiventris*, or still younger. The reference made by Hartlaub to a "purpure Binde, welche nach hinten zu in das Gelb der Steissfedern verblasst," probably betokens that there were still yellow-tipped feathers on the abdomen.

10. *PTILOPUS FASCIATUS*.

Ptilinopus fasciatus, Peale, U. S. Exp. p. 193, pl. 53 (1848); Hartl. Wieg. Arch. 1852, p. 115; Cass. U. S. Exp. p. 271, pl. 31 (1858); Finsch & Hartl. Orn. Centralpolyn. p. 115, pt. (1867); Finsch, J. f. O. 1872, pp. 32, 45; Gräffe, Journ. Mus. Godef. i. p. 49, pl. 7. fig. 2 (1873); Whitmee, P. Z. S. 1873, p. 152; id. Ibis, 1875, p. 442.

Ptilonopus fasciatus, Gray, List B. Brit. Mus., *Columbæ*, p. 4 (1856); id. B. Trop. Is. p. 37 (1859); Reichb. Neuentd. Tauben, p. 117, Novit. t. iv. figs. 34, 35; Finsch, P. Z. S. 1877, p. 783; Ramsay, Pr. Linn. Soc. N. S. W. ii. p. 140 (1877).

Lamprotreron apicalis, Bp. C. R. 1854, p. 877.

Ptilopus apicalis, Bp. Consp. Av. ii. p. 23 (1857); Elliot, P. Z. S. 1878, p. 527; Tristr. Cat. Coll. B. p. 43 (1889).

Kurukuru de Clémentine, Des Murs & Prév. Voy. Vénus, Ois. p. 264 (1855).

Ptilopus clementinæ, Bp. Consp. Av. ii. p. 22, pt.; id. Iconogr. Pig. pl. xxii. fig. 1 (1857).

Ptilonopus clementinæ, Gray, B. Trop. Is. p. 38, pt. (1859); Reichb. Tauben, p. 96, pt. (1862).

Ptilinopus apicalis, Finsch & Hartl. Orn. Centralpolyn. p. 121 (1867).

Ptilonopus apicalis, Layard, Ibis, 1876, p. 506; id. P. Z. S. 1876, p. 495; id. op. cit. 1877, p. 464; id. Ibis, 1878, p. 261.

Ptilopus fasciatus, Schl. Mus. P.-B., *Columbæ*, p. 6 (1873); Layard, Ibis, 1878, p. 261; Elliot, P. Z. S. 1878, p. 535, pt.

Ptilopus pictiventris, Elliot, P. Z. S. 1878, p. 530, pl. xxxiii.;

id. Ann. & Mag. N. H. ser. 5, i. p. 349 (1878); Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 178.

? *Ptilonopus whitmeei*, Ramsay, Pr. Linn. Soc. N. S. W. ii. p. 140 (1877).

“Manu-tagi” (*Peale*), “Manulua,” juv. (*Gräffe*) of the natives of Samoa. “Nariga,” natives of Uea (*Gräffe*).

Hab. All the Samoan Islands (*Whitmee*, *Layard*, *Gräffe*, &c.); ? Island of Uea (*Gräffe*).

Judging from the description in the ‘Orn. Centralpoly-nesiens,’ the island of Uea may possess a separate variety. It has the vinous-purple abdominal spot of the Samoan species, and the tail is faint yellowish, but the abdomen is grass-green, and no mention is made of a blackish band at the bottom of the breast. It thus presents a mean between *P. porphyraceus* and *P. fasciatus*, as might perhaps have been expected, since Uea is situated about midway between Samoa and the island of Futuna, where *P. porphyraceus* occurs. The bird described by Mr. Elliot as *P. fasciatus* has the yellow tail-band of *P. fasciatus*, but in the green abdomen, with its purplish-black spot, corresponds to a Tongan or Fijian specimen. Dr. Finsch also mentions a specimen from Upolu (J. f. O. 1872, p. 45) with a green abdomen, but a vinous spot in the middle. On the other hand we are assured by Herr Schmeltz, who had the opportunity of examining “hundreds” of *Ptilopus* skins from Samoa, that, besides *P. perousei*, the only form sent in by the collectors of the Museum Godeffroy was that named by Mr. Elliot *P. pictiventris*. I cannot reconcile these conflictory statements. The specimen described by Mr. Elliot is figured in the ‘Voyage au Pôle Sud’ by Hombron and Jacquinot as the *Ptilinope de Clémentine*; but as Jacquinot and Pucheran mention only the Fiji Islands as the home of their *P. clementinæ*, that name should stand for the Fijian species.

11. *PTILOPUS CLEMENTINÆ*. (Plate XI.)

Ptilinopus clementinæ, Jacq. & Pucher. Voy. Pôle Sud, Zool. iii. p. 117 (1853).

Ptilinope de Clémentine, Hombr. & Jacq. Voy. Pôle Sud, Atlas, pl. 29. fig. 3 (1853) ?

Ptilopus clementinæ, Bp. Consp. Av. ii. p. 22, pt. (1857).

Ptilopus porphyraceus, Bp. Consp. Av. ii. p. 23, pt. (1857).

Ptilonopus clementinæ, Gray, B. Trop. Is. p. 38, pt. (1859); Reichb. Tauben, p. 96, pl. 240. fig. 2588, pt. (1862).

Ptilinopus fasciatus, Finsch & Hartl. (nec Peale) Orn. Centralpolyn. p. 115, pt. (1867); iid. J. f. O. 1870, p. 133, pt.; Finsch, P. Z. S. 1874, p. 94, pt.; Layard, ib. 1875, p. 436; id. Ibis, 1876, pp. 392, 506; id. P. Z. S. 1876, pp. 495, 502; id. op. cit. 1877, p. 464; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 178; Schalow, J. f. O. 1887, p. 245.

? *Ptilopus purpuratus*, Bp. Iconogr. Fig. pl. xix. fig. a (1857).

? *Ptilopus bonapartei*, Gray, Hand-l. ii. p. 225 (1870); Elliot, P. Z. S. 1878, p. 524.

Ptilinopus porphyraceus?, Tristr. Ibis, 1878, p. 261.

Ptilopus purpuratus, Elliot, P. Z. S. 1878, p. 525, pt.; Tristr. Cat. Coll. B. p. 44, pt. (1889).

Hab. Fiji Islands: Balaou (*Hombron & Jacquinot*), Waikaia, Mokani, Loma-loma, and Mango (*Layard*). ? New Caledonia (*Schalow*). [May not this have been *P. greyi*, jr. ?]

12. *PTILOPUS PEROUSEI*.

Ptilinopus perousei, Peale, U. S. Exp. p. 195, pl. 54 (1848); Hartl. Wieg. Arch. 1852, pp. 115, 134; Cassin, U. S. Exp. p. 274, pl. xxxiii. (1858); Finsch & Hartl. Orn. Centralpolyn. p. 110; iid. P. Z. S. 1869, p. 548; iid. J. f. O. 1870, pp. 122, 131; Gräffe, t. c. pp. 402, 408; Finsch, J. f. O. 1872, pp. 32, 44; Gräffe, Journ. Mus. Godef. i. p. 49 (1873); Layard, P. Z. S. 1875, p. 435; id. op. cit. 1876, pp. 495, 502; id. Ibis, 1876, pp. 392, 506; Whitmee, P. Z. S. 1873, p. 153; id. Ibis, 1875, p. 441; Nehr Korn, J. f. O. 1879, p. 407; Reichn. J. f. O. 1891, p. 127.

Columba kurukuru superba, Hombr. & Jacq. Ann. Sc. Nat. xvi. p. 316 (1841).

Ptilinope de Marie, Hombr. & Jacq. Voy. Pôle Sud, Atl. pl. 29. fig. 2 (1853).

Ptilinopus mariæ, Jacq. & Pucher. Voy. Pôle Sud, Texte, iii. p. 115 (1853).

Ptilopus mariæ, Bp. C. R. 1854, p. 887 ; id. Consp. Av. ii. p. 22 (1857) ; id. Iconogr. Fig. pl. 26 (1857).

Kurukuru samoensis, Des Murs & Prév. Voy. Vénus, Zool. p. 247 (1855).

Ptilonopus mariæ, Gray, List B. Br. Mus., *Columbæ*, p. 4 (1856) ; id. B. Trop. Is. p. 37 (1859) ; Reichb. Tauben, p. 96, Neuentd. Tauben, p. 178, Novit. t. lxi. fig. 2586, et t. v. figs. 49, 50 (1862).

Ptilinopus cæsarinus, Hartl. J. f. O. 1864, p. 413 (juv.).

Ptilopus perousei, Schl. Mus. P.-B., *Columbæ*, p. 10 (1873) ; Elliot, P. Z. S. 1878, pp. 515, 545 ; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 179 ; Nehrkorn, J. f. O. 1879, p. 407 ; Tristr. Cat. Coll. B. p. 44 (1889).

“Manu-ma” ♂, “Manu-lua” ♀ (?), Samoa Islands (*Whitmee*). “Manu-ma’a,” Tonga Islands (*Gräffe*). “Sanakulu” or “Kuluvotu” or “Bunesolove,” Fiji Islands.

Hab. Samoa Islands (*Peale*, *Whitmee*—“not uncommon”) : Upolu (*Gräffe*, *Layard*). Tonga Islands, Tonga-tabu (*Gräffe*). Fiji Islands : Balaou (*Hombr. & Jacq.*), Mathuata (*Peale*), N’gau (*Stair*), Viti Levu (*Gräffe*, *Layard*), Ovalou, Waikaia, Mokani, Vanua Levu, Loma-loma, Mango, Kandavu (*Layard*), Kanathia (*Gräffe*), Vatu Lele (*Schmeltz*).

13. PTILOPUS TANNENSIS.

Hook-billed Pigeon, var., Lath. Gen. Syn. ii. p. 632 (1783) (described from a picture in Sir Joseph Banks’s collection) ; Bechst. Lath. Uebers. ii. p. 612 (1794).

Pigeon from Tanna, Lath. Gen. Syn. App. ; Bechst. Uebers. App. p. 641 (1794).

Columba curvirostra, var. β , Gm. S. N. i. p. 777 (1788).

Columba tannensis, Lath. Ind. Orn. ii. p. 600 ; Bechst. Uebers. iv. p. 380 (1811).

Columba vernans, pt., Wagl. Syst. Av. Col., sp. 9.

Columba xanthura, Wagl. Isis, 1829, p. 739 ; Forster, Descr. An. p. 264 (1844).

Treron aromatica, pt., Gray, Gen. B. ii. p. 467.

Ptilonopus xanthura, id. op. cit. App. p. 23.

Ptilonopus tannensis, id. op. cit. p. 467.

Osmotreron tannensis, Bp. Consp. Av. ii. p. 14 (1857); Reichb. Tauben, p. 104 (1862).

Treron curvirostra, pt., Reichb. Tauben, p. 108.

Ptilinopus corriei, Ramsay, Proc. Linn. Soc. N. S. W. i. p. 133 (1876).

Chrysænas, sp. inc., Layard, Ibis, 1878, pp. 275, 280.

Ptilopus (Chrysaena) corriei, Ramsay, Proc. Linn. Soc. N. S. W. iii. p. 339; Schmeltz, Verh. Ver. Hamb. 1879, p. 78.

Ptilopus corriei, Elliot, P. Z. S. 1878, p. 566; Layard, Ibis, 1880, p. 291; Tristr. Ibis, 1879, p. 193; id. Cat. Coll. B. p. 44 (1889).

“Ponnùas” of the natives (*Forster*).

Hab. New Hebrides: Tanna (*Forster, Layard*), Mallicolo (*Corrie*), Erromango, Vaté, Ambrym (*Layard*).

In ‘The Ibis,’ 1882, p. 344, Mr. Ramsay states his belief that his *P. corriei* will prove to be Latham’s *Columba tannensis*. The description given by Bonaparte (*l. c.*), to which he refers, is not so minute as that given by Wagler and Forster. The last corresponds in every detail with the original description of *P. corriei*, mentioning “remigum trium postremarum apicibus exterioribus, eisque respondentium tectricum flavis,” as Wagler puts it,—a point which at once distinguishes *P. corriei*. There can therefore be no doubt that Mr. Ramsay’s supposition is correct.

14. *PTILOPUS GREYI*.

Ptilonopus greyi, Gray, List B. Br. Mus., *Columbæ*, p. 4 (1856); id. P. Z. S. 1859, p. 165; id. B. Trop. Is. p. 38 (1859); Bp. Iconogr. Pig. pl. xx. (1857); Verr. & Des Murs, Rev. Zool. 1860, p. 435 (*P. grayi*); Jouan, Mém. Soc. Cherb. 1863, pp. 95, 229; Tristr. Ibis, 1876, p. 264; Marie, Actes Soc. Linn. Bordeaux, xxvii. p. 328 (1869).

Ptilonipus greyi, Finsch & Hartl. Orn. Centralpolyn. p. 126 (1867); Finsch, P. Z. S. 1874, p. 94 (*P. grayi*).

Ptilopus purpuratus, Bp. (nec auct.) Consp. Av. ii. p. 19 (1857).

Ptilopus greyi, Schl. Mus. P.-B., *Columbæ*, p. 7 (1873); Elliot, P. Z. S. 1878, p. 523; Layard, Ibis, 1878, pp. 261, 275;

Tristr. Ibis, 1879, p. 193; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 78; Layard, Ibis, 1880, p. 231; id. Ibis, 1881, p. 139; id. Ibis, 1882, pp. 527, 544; Tristr. Cat. Coll. B. p. 44 (1889).

Ptilopus apicalis, Ramsay, Proc. Linn. Soc. N. S. W. iii. p. 339 (1878).

"Pin," "Mare," or "Denné," natives of Lifu (*Layard*).
"Ta-foikuku," Aniwa (*Tristram*).

Hab. New Caledonia (*Layard*)—Island of Pines (*Macgillivray*, *Layard*); Loyalty Islands (*Sir G. Grey*)—Lifu (*Layard*); New Hebrides—Erromango (*Gray*, &c.), Aniwa, Vaté, Mallicolo, and ? Api (*Layard*, *Tristram*); Santa Cruz Islands—Vanicoro (*Astrolabe Exp.*).

15. *PTILOPUS HERNSHEIMI*.

Ptilopus hernsheimi, Finsch, P. Z. S. 1880, p. 577; id. J. f. O. 1880, p. 303; id. Ibis, 1881, p. 106.

"Kwon" of the natives (*Finsch*).

Hab. Island of Kushai or Ualan in the East Carolines (*Finsch*).

16. *PTILOPUS PONAPENSIS*.

Ptilinopus fasciatus?, Finsch, Journ. Mus. Godef. xii. p. 37 (1876).

Ptilonopus ponapensis, Finsch, P. Z. S. 1877, p. 779; Schmeltz, Ethnogr. Abth. Mus. Godef. p. 353 (1881).

Ptilopus fasciatus, Elliot, P. Z. S. 1878, p. 535; Tristr. Cat. Coll. B. p. 44 (1889).

Ptilopus ponapensis, Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 178; Finsch, P. Z. S. 1880, pp. 576, 578; id. J. f. O. 1880, p. 291; id. Ibis, 1881, pp. 111, 113.

Hab. Islands of Ponape and Ruk or Hogoleu in the Caroline Islands (*Kubary*, *Finsch*).

This species may be distinguished from *P. porphyraceus* and *P. fasciatus* by the straw-yellow tone of the head, neck, throat, and breast; and by the dark green ventral spot, of which the tips of the feathers appear violet in certain lights. The tail is tipped with a broad band of yellow; that of *P. porphyraceus* with grey (*Finsch*).

17. *PTILOPUS PELEWENSIS*.

Ptilinopus pelewensis, Hartl. & Finsch, P. Z. S. 1868, pp. 7, 118; iid. ib. 1872, p. 101; Gräffe, Journ. Mus. Godef. i. pl. 7. fig. 5 (1873); Finsch, op. cit. viii. p. 24 (1875); Schmeltz, Ethnogr. Abth. Mus. Godef. p. 407 (1881).

Ptilopus pelewensis, Elliot, P. Z. S. 1878, p. 531; Schmeltz, Verh. Ver. Hamb. 1877 (1879), p. 178; Tristr. Cat. Coll. B. p. 44 (1889).

"Abieb" of the natives (*Kubary*).

Hab. Pelew Islands (*Kubary*).

18. *PTILOPUS ROSEICAPILLUS*.

Columba roseicapilla, Less. Tr. d'Orn. p. 472 (1831).

Le Kurukuru des Mariannes, Less. Compl. Buff. iii. Ois. p. 33 (1837).

Columba purpurata, Kittl. Kupfert. iii. p. 25, pl. 33. fig. 2 (1833).

Ptilonopus purpureocinctus, Gray, P. Z. S. 1853, p. 48, pl. 55; id. Ann. & Mag. N. H. 2nd ser. xv. 1855, p. 159; id. List B. Br. Mus., *Columbæ*, p. 4 (1856).

Kurukuru roseicapilla, Des Murs & Prév. Voy. Vénus, Ois. p. 259 (1855).

Ptilopus roseicapillus, Bp. C. R. xl. 1855, p. 216; id. Rev. Zool. 1856, p. 536; id. Consp. Av. ii. p. 21; id. Iconogr. Pig. pl. xxii. (1857); Schl. Mus. P.-B., *Columbæ*, p. 8 (1873); Elliot, P. Z. S. 1878, pp. 516, 537; Oust. Le Nat. 1889, p. 261.

Ptilonopus roseicapillus, Gray, B. Trop. Is. p. 37 (1859); Reichb. Tauben, pp. 96, 177.

Ptilinopus roseicapillus, Finsch & Hartl. Orn. Centralpolyn. p. 127 (1867).

Hab. Marianne Islands (*Marche*): Guam (*Kittlitz*).

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